

PCT/NZ2004/000187

REC'D 14 SEP 2004

WIPO

PCT

CERTIFICATE

This certificate is issued in support of an application for Patent registration in a country outside New Zealand pursuant to the Patents Act 1953 and the Regulations thereunder.

I hereby certify that annexed is a true copy of the Provisional Specification as filed on 18 September 2003 with an application for Letters Patent number 528331 made by VAUGHAN JOHN HUTCHINSON.

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)

Dated 1 September 2004.



Neville Harris
Commissioner of Patents, Trade Marks and Designs



528331

PATENTS FORM NO. 4

Appln Fee: \$50.00

Pipers Central Ref: 12-2656NZ

PATENTS ACT 1953

PROVISIONAL SPECIFICATION

IMPROVEMENTS IN AND RELATING TO STORAGE DEVICES

I Vaughan John Hutchinson, a New Zealand Citizen, of 175 Surrey Road, RD8,
 Tariki, Inglewood, Taranaki, New Zealand

do hereby declare this invention to be described in the following statement:

5 IMPROVEMENTS IN AND RELATING TO STORAGE DEVICES

Technical Field

10 The present invention is directed to further improvements in and relating to storage devices.

The applicant concurrently has filed New Zealand Patent application No. 527666. However, this current application relates to yet further improved aspects of the features, manufacture, operation and application of an improved storage device for the managing
15 and storing of a range of articles, not only flex, chord, flexible tubing made of plastics material and so forth for electrical extension leads, for garden hoses, for rope, for rubber tubing, for gas hoses associated with various types of equipment, such as air hoses, hoses for welding equipment and the like, but also for use with glass, wall-boards and solid sheet materials or similar, along with other articles that may from time-to-time benefit
20 from the use of this invention. The device may also be used not only for storage of these articles, but for transport to sites where they are required to be carried for use.

The storage device is envisaged for use to store such articles safely and neatly, yet also enables easy access to, carrying of and use of such articles.

25 However, it should be appreciated that this invention may have applications outside this field.

Background Art

30

The applicant's concurrent New Zealand Patent Application No. 527666 provided some discussion relating to existing storage devices for use with chords and the like. While the present invention has a number of potentially realisable applications, it is in relation to problems associated with existing reel, or storage systems used for electrical extension
35 leads that the present invention was primarily developed, along with looking for a

5 solution to address the problems associated with twisting, knotting and safety issues when using and storing electrical leads.

However, in the course of further development a number of additional features and applications have evolved that contribute to the functionality of the invention and provide
10 potentially reliable benefits over prior art systems.

For example, many systems for storing leads, chords, rope, tubing, hoses and the like may be available in a form requiring the manual carrying of the device and article from a storage site to the site for use. Where large tubing such as hoses for swimming pools and
15 the like, or long lengths of the article are involved, the weight becomes a significant factor affecting the ease with which the device and stored article may be transported.

There are a number of trolley or wheeled systems available in the prior art, but none to the knowledge of the applicant that includes the storage feature of the present invention.
20 Hence, similar problems of storing the leads and so forth still exist with existing systems.

Further, in some industries, organizations or institutions, such as hospitals, there are strict requirements in the use of articles and the functions they perform in a manner that does not interfere with any other operational system in the vicinity. For example, in operating
25 theatres, it is important to ensure magnetic fields are minimised to limit interference with sensitive technology used in close vicinity when performing operations. Operating theatres use many pieces of machinery where electrical leads are required to be kept off the ground, and whilst the present invention primarily addressed that, it is an added feature of the configuration of the storage device that has ancillary benefits over the prior
30 art.

Further, the range of applications of the present invention provides more versatility for use in a range of applications, from storing and facilitating use of electric leads in work areas, to the transport, storage and improved use of swimming pool hoses, to the use on
35 boats for storage and improved use of ropes for tying the boat to a dock or for anchors.

5 Presently, the most common behaviour is to loop the chords or hoses on the ground or deck of the boat, which risks them becoming tangled, knotted or damaged.

In yet another application, the present invention may be used to carry or store various thicknesses of wall-boards, such as plasterboard, wall boards of various forms,
10 corrugated iron, plywood sheets and the like. Presently these types of articles are carried by extending the arms wide enough to reach each edge of the narrowest width of the board, or may use hooks or similar. These various systems may be time and energy consuming, may be difficult to enable the individuals to easy perform the transportation and may be difficult to control in the event of a windy day.

15 However, whilst the range of configurations to effect the different uses may vary, the overriding feature of the present invention remains substantially the same.

It would be useful therefore, to have a storage device that:

- 20 a) Could have the benefits of being adapted to store a range of articles; yet
- b) Could be easy to operate, transport, or store in accordance with the requirements of a particular situation and requiring minimum time and physical requirements on the
25 part of the user; and
- c) Could be used to store articles in a manner that, when required to be used, removal from the device may be accomplished easily and potentially more efficiently than may be common to prior art system; and
- 30 d) Could potentially minimise damage to the integrity of the article; and
- e) Offered a safe alternative to the storage and use of an article; and
- 35 f) Could provide additional benefits by enabling an article such as an electrical extension chord to be stored on the device and still be used without effecting

5 damaging coil effect or without effecting the extent of magnetic fields that may interfere with the operation of adjacent or nearby equipment.

It would therefore be advantageous to have an invention that offered at least some if not all of the advantages of the above proposed system. It is therefore an object of the present invention to consider the above problems and provide at least one solution which
10 addresses a plurality of these problems.

Ideally the present invention will continue to provide a storage device system which allows for the substantially trouble free storage of hoses, flexes and chords of various tools, or machines in association with the machine, or tool itself, but having some, if not
15 all, of the advantages outlined above.

Ideally the storage device system is suitable for use, or is suitable to being adapted for use, in any situation where hoses, chords, flexes, tubes and leads are currently employed. It is therefore a further object of the present invention to at least provide the public with a
20 useful choice, or alternative system.

Further aspects and advantages of the present invention will become apparent from the ensuing description which is given by way of example only. It should be appreciated that variations to the described embodiments are possible and would fall within the scope of
25 the present invention.

Disclosure of Invention

Whilst the present invention has been and is still described with particular reference to the features and use of a storage device for electrical extension leads, it should be
30 appreciated that the invention may also be applicable to and/or be adapted for use with, a range of other leads, hoses, flexes and chords, or other elongate pieces of material capable of being flexible enough to be otherwise wound up.

5 Further the invention may have a number of ancilliary uses for the storage and/or carrying and/or use of other articles that may benefit from the device. As mentioned in the previous section, wall-boards, roofing materials, sheet materials, and so forth may be transported, or stored using the present invention.

10 For the purposes of this specification the term lead shall be used to describe and refer to electric chords and electrical extension leads, in particular. However, for conciseness, it should be appreciated that the term also includes, other chords, hoses for fluids and/or flowable products, flexes, tubes and so forth made of varying materials having appropriate flexibility to enable said chords, hoses, flexes and leads to be used in
15 conjunction with the storage device. Accordingly, where hoses are used, the hose may carry water, oils, chemicals, gases, and so forth. The electrical leads may be extension chords, light chords, chords for various range of equipment. Chords may also include rope for boating and the like. Chain systems may also be included.

20 Whilst leads, chords, chains and so forth may substantially cylindrical-shaped structures, or substantially flattened versions, other articles may take quite different shapes, as can be appreciated when considering solid sheet material such as wall-boards and the like or roofing, sunshade or screen materials. Therefore the examples used in the present application should not be seen to limit the application of the present invention only to
25 embodiments with relevance to the present description.

According to one aspect of the present invention, there is provided a storage device for use with at least one article, said storage device including a body, said body including a substantially elongate backbone and at least one substantially elongate tine
30 interconnected thereto in a substantially parallel arrangement, but separated therefrom by a defined distance to form a channel, and optionally including latching apparatus to maintain the defined distance between the backbone and the tine during storage of a article by the storage device.

5 According to one aspect of the present invention, there is provided a storage device for use with at least one article, substantially as described above wherein the article may include a lead, chord, rope, chain, solid sheet or elongate material.

10 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the storage device may be used to effect one or more of to store, carry or use the article within or relative to the storage device.

15 According to one aspect of the present invention, there is provided a storage device for use with at least one article substantially as described above wherein the channel is substantially uniform along its length.

20 According to one aspect of the present invention, there is provided a storage device for use with at least one article substantially as described above wherein the channel is substantially U-shaped.

25 According to one aspect of the present invention, there is provided a storage device for use with at least one article substantially as described above wherein the channel is substantially divergent along its length.

According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the said storage device also optionally includes a handle.

30 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the elongate backbone and the tine of the body both include a free top distal end, whilst the bottom distal end provides an interconnecting portion to form the substantially uniformly dimensioned channel.

35

5 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the width of the substantially U-shaped channel formed between the backbone and the tine is defined by the diameter, or width, of at least one article to be stored in the device.

10 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the width of the substantially U-shaped channel formed between the backbone and the tine is determined to enable only one width of the article to be fed down the channel at any one time.

15 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein where the article is a lead, subsequent looping of the lead enables further widths of the lead to be fed down the channel such that, with each subsequent loop, the section of lead within the channel sits substantially atop an adjacent previous looped section of the lead.

20 According to another aspect of the present invention there is provided a storage device for storing articles substantially as described above wherein the latching apparatus is attached towards the top distal end of either the backbone, or the tine.

25 According to another aspect of the present invention there is provided a storage device for storing articles substantially as described above wherein where the latching apparatus is attached towards the top distal end of the backbone, a portion of the latching apparatus is capable of looping over the top distal end of the tine, or vice versa.

30 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the latching apparatus contributes to maintaining the defined distance between the backbone and the tine during storage of the article by the storage device, via preventing the weight of the article stored within the channel from forcing the backbone and the tine to splay apart
35 from each other.

5 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the latching apparatus may be used as, or adapted to include, a handle for gripping the storage device in use, or for hanging the storage device when being stored.

10 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the handle operates as the latching apparatus.

15 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein either, or both, the latching apparatus and the handle are pivotable with respect to the backbone, or the tine.

20 According to another aspect of the present invention there is provided a storage device for storing at least one article substantially as described above wherein the backbone and attached tine is able to rotate up to 360° relative to means associated with either or both a centrally located pin through the longitudinal body of the backbone, or via a rotating means associated with the latching means or handle when attached to the backbone.

25 According to another aspect of the present invention there is provided a storage device substantially as described above wherein additional tines may be included relative to all faces of the backbone, where leads of increased length are required to be stored and can not be accommodated within the channel of a single tine version of the storage device.

30 According to another aspect of the present invention there is provided a storage device substantially as described above wherein the additional tines may be attached removably or permanently.

According to another aspect of the present invention there is provided a storage device substantially as described above wherein additional tines may be included relative to all

5 faces of the backbone, where leads of increased length are required to be stored and can not be accommodated within the channel of a single tine version of the storage device.

According to another aspect of the present invention there is provided a storage device substantially as described above wherein the tine(s) may be pivotally attached to the
10 backbone to enable fast release and feeding out of the lead from the storage device.

According to another aspect of the present invention there is provided a storage device substantially as described above wherein additional backbones may be included from which at least one tine may extend.

15 According to another aspect of the present invention there is provided a storage device substantially as described above wherein the storage device may be configured to include, or be adapted to receive optional motive means to facilitate transport of the storage device and included article to and from an area for use.

20 According to another aspect of the present invention, there is provided a method of manufacturing a storage device for storing at least one article, said storage device including a body, said body including a substantially elongate backbone and at least one substantially elongate tine interconnected to said backbone, but separated therefrom by a
25 defined distance to form a channel, and optionally including at least one of latching apparatus to maintain the defined distance between the backbone and the tine during storage of the article by the storage device, a handle, motive means.

According to another aspect of the present invention, there is provided a method of
30 varying the article storage capacity of a storage device for storing either or both articles such as leads and articles such as substantially solid sheet materials and the like, said storage device including a body, said body including a substantially elongate backbone and multiple substantially elongate tines interconnected to said backbone, but each tine separated from the backbone by a defined distance to each form a channel, said tines
35 being further separated from each other by a defined distance, and said storage device

5 optionally including at least one of latching apparatus to maintain the defined distance between the backbone and a tine during storage of a lead by the storage device, a handle, motive means.

10 In one preferred embodiment of the present invention, the storage device is designed to store a single lead. Preferably the body of the storage device is designed to complement the type and length of the lead required to be stored thereon.

However, the storage device may be used for the storage and or transportation of sheet materials, such as glass, wall-boards, roofing materials and the like.

15

Accordingly, the length of the backbone and the length of the tine is determined to accommodate a preferred number of loops of the lead stacked sequentially on top of each other as the lead is looped on to the storage device, or to provide preferred support to the sheet material as determined by the height it extends.

20

The stacking effect of the lead loops one on top of the other is determined by the width of the channel created between the spaced apart backbone and tine of the body of the device. In some preferred embodiments, the channel is substantially U-shaped. The width of the U-shaped channel is, in turn, determined by the width, or diameter, of the lead to be stored on the device.

25

Where the storage device is to be used with other articles, the base of the channel may be substantially a concave U-shape, squared off, be convex, or be tapered.

30 Where electrical extension leads are to be used, it is often recommended that it is important to fully unwind the lead from reels or other similar prior art systems to minimize the likelihood of electrical resistance due to the electrical current passing through the lead causing overheating of the lead where it is in close contact with, or overlapping adjacent sections of lead. Overheating due to such coil effect may result in

5 damage and/or failure of the insulating sheath of the electrical lead. This is potentially hazardous to the user.

Further as an adjunct to the overheating aspect, the coil effect also increase the magnetic field generated around the lead. This may be disadvantageous in situations where
10 sensitive equipment is being used and where the coil effect contributes to magnetic interference in the operation of that equipment. The present invention is so designed that the consecutive loops are stacked one on top of the other, thereby minimizing the coil effect and hence the magnetic field effect possible when leads are simply wound on drum systems.

15 Whilst in many embodiments of the present invention the configuration of the storage device includes at least one elongate backbone and at least one tine of the body which both include a free top distal end, whilst the bottom distal end of each is interconnected to form the substantially U-shaped channel, other embodiments are also possible.

20 Whilst the interconnecting portion of the body defines the width of the channel, such that the channel complements the width/diameter of the article, in other embodiments the interconnecting portion may form part of either the backbone or the tine and include therewith a pivoting means to enable the tine to pivot up to 180° through a vertical plane.
25 Thus the tine may be operated from a position substantially parallel to the backbone, through a range of angular positions to at most a position substantially aligned to the longitudinal axis of the backbone.

This latter embodiment may have application where the fast release of the article is
30 required. For example, this embodiment may be useful for the release and unwinding of an anchor rope, or similar.

Accordingly, for example, the latching means may be released which allows the tine to pivot downwards under gravity to release the article previously retained in the channel
35 between the tine and the backbone. Alternatively, the pivoting tine may benefit the

5 inputting of a solid sheet material into the channel in preparation for transportation or storage. In such embodiments, a different latching means may be employed to retain the tine in its storage position parallel to the backbone.

10 It should also be appreciated that in some embodiments of the present invention it would be advantageous to have a rotating system of the central backbone and associated tine(s). For example, a rotating system may assist in the loading or unloading of a lead onto and off the storage device, particularly where multiple tines are included and the lead is substantially long. The rotating means may enable the backbone to rotate up to 360° or more, may enable the backbone to rotate from side to side through a 180° or 90° arc, or
15 any horizontally displaced angle.

The arrangement of the rotating means may vary between embodiments. For example, the backbone may be substantially hollow and be capable of receiving an elongate pin or such like around which the backbone can rotate. Alternatively the connection of the
20 latching apparatus and/or the handle may include rotating means. Thus when the latching means is released the central backbone may be rotated, but when the latching means is secured the backbone is not rotatable. As can be appreciated various options may be used with or adapted for use with the present invention to effect the desired operation.

25 In embodiments of the present invention where there are two or more tines the tines may be permanently or removeably attached to the central backbone. Removeable tines may be attached via a tight push fit, via bayonet type fitting, via a slot and slide system, via a clip-on system, or any other suitable means. Accordingly the storage device becomes much more versatile in the range of applications of it, and with a variety of articles.

30 The storage device may also be configured to take any appropriate shape as required to effect the preferred strength to support the weight of the article. However, of critical importance is the defined distance of the channel created between the backbone and the tine. The dimensions of the width of the channel may vary from one embodiment to
35 another. However, it is important that for many embodiments the channel be the same

5 defined width for the substantial length of the channel receiving the article(s).
Nevertheless, it is conceivable that in some situations and with some articles it may be
necessary for the channel to be tapered, or diverge towards its upper or lower end.

10 Whilst in some preferred embodiments the latching apparatus may contribute to
maintaining the preferred shape of the storage device when loaded with a lead, in other
embodiments the article stored by the storage device may mean that the latching
apparatus is most useful as a handle or as a means to hang the storage device from a hook
means or similar. This is most likely to be the case where the storage device is used with
solid sheet materials or similar articles.

15

The latching apparatus is accordingly therefore, preferably pivotally attached to a portion
of the body of the storage device and is able to operate between a latched and an
unlatched position. In order to enable the latching apparatus to pivot, the latching
apparatus includes at least one aperture capable of alignment with a complementary
20 aperture on a tine, or on the backbone. A pivoting means, such as a pin and spring clip, a
cotter pin, a rivet, a nut and bolt arrangement, or comparable available means may be
used. Thus when the pivoting means is engaged with in-line apertures, the latching means
is fitted to the body of the storage device. It may be relevant in some embodiments to also
include a locking means to effect retention of the latching means (or even a handle) in a
25 preferred arrangement – whether it be in the unlatched or latched position, to prevent
movement of the latching apparatus until required.

Whilst one latching apparatus has been described in relation to the present invention, it
should be appreciated that any other suitable latching apparatus, or a combination of
30 latching and/or handle means may be employed, or adapted for use, with the storage
device.

The same affixing, pivoting and operational description is also relevant to the storage
device in the instance where an embodiment also, or instead, includes a handle. Where
35 embodiments do include a specifically designated handle, the handle enables the storage

5 device to be gripped to loop a lead on, or off, the device, enables the device to be carried to locations where the lead is required to be used and also provides a means to hang the storage device up for storage of either or both the storage device and the lead.

10 The handle of some embodiments may include specifically designed finger groves to improve the comfort of gripping the handle.

15 However, in some use situations, the stored article may be too heavy or cumbersome to be easily carried on the storage device to a site for use. In such situations an alternative embodiment may include or be adapted to include motive means, such as wheels or castors to facilitate movement of the storage device and stored article thereon. As may be appreciated, any number and arrangement of the motive means may be employed. In addition, there may be included braking means, or means that enable the storage device to be stood independently of the user.

20 Therefore in such instances a stand or a frame may be included on to which the motive means with or without braking means may be included. In some embodiments the backbone of the storage device may be an integral part of the frame, as may the latching means. However, the storage device may be configured such that the device and the frame are two separate components and the backbone of the storage device may be
25 configured hollow to slide over a central vertical tubular portion of the frame to enable the storage device to rotate as previously described.

30 For greater flexibility of storage and/or use, the frame may include a portion which is extendable telescopically. This telescopic extension may be part of the frame to which only the storage device is attached, or may involve a whole section of the frame being able to be extended telescopically. Appropriate catches, locking means and release systems may be employed to maintain the frame in its extended position and vice versa. Such an option may be beneficial where the storage device is being used to store and transport sheet materials and the like. The vertical portion of the frame also minimises the need for
35 the user to have to bend to remove or apply the article to the storage device.

5 The frame may also include a form of handle to enable the frame with the storage device attached to or incorporated therein to be readily pushed or pulled in the direction required. Alternatively, the handle may be integral with the storage device.

10 As can be appreciated from the above description, the feature of the adjustments to the storage device obtained through the numerous alternative positions of more than one tine relative to more than one central backbone(s) of the present invention and the option to extend the length of the tines, to enable the backbone to rotate and/or at least the tine to pivot, provides some benefit over prior art systems which usually have a fixed capacity or mode of operation. The present invention also lends itself for use with a range of articles,
15 which existing systems do not typically offer.

In any embodiment the desire is for the storage device to be easy to operate, transport, or store and to require minimum time and physical requirements on the part of the user.

20 As can be appreciated variations to and from the above described embodiments may be made without deviating from the scope of the present invention.

It should further be appreciated a variety of different embodiments, uses, and applications of the present invention exist, even within the ambit of the above described storage system.

25 A specific embodiment for the present invention including motive means will now be given by way of example only, to help better describe and define the present invention. However, describing this one embodiment should not be seen as limiting the scope of this invention.

Brief Description of Drawings

30

Further aspects of the present invention will become apparent from the following description, given by way of example only and with reference to the accompanying drawings in which:

5 Figure 1 is a side view of the storage device and frame combination in accordance with one preferred embodiment of the present invention; and

Figure 2 is a rear view of the storage device of Figure 1 in accordance with that preferred embodiment of the present invention; and

10 Figure 3 is a front view of the storage device of Figures 1 and 2, in accordance with that preferred embodiment of the present invention.

Best Modes for carrying out the Invention

15 With reference to the diagrams (Figures 1 to 3) by way of example only, there is provided a storage device (generally indicated by arrow (1)). Whilst the figures of the storage device are described, referenced for use and exemplified with relevance to electrical extension leads, it should be appreciated this invention may have application outside of
20 this field, as advised in the previous section describing the invention..

Accordingly, Figures 1 to 3 illustrate one preferred embodiment of the present invention, where the storage device 1 is configured to store at least one lead 2.

25 The storage device includes a body 3, which includes a substantially elongate backbone 4 and at least one substantially elongate tine 5 interconnected thereto in a substantially parallel arrangement, but separated therefrom by a defined distance 6 to form a channel 7. The channel in this embodiment is substantially uniform and U-shaped.

30 The storage device also includes latching apparatus 8 to maintain the defined distance 6 between the backbone 4 and the tine 5 during storage of a lead 2 by the storage device 1. The latching apparatus 8 is attached towards the top distal end 10 of the backbone 4.

5 The latching apparatus of this embodiment is also configured to provide handle means 9. In order to operate as required either or both the latching apparatus 8 (and the handle means 9) are pivotable with respect to the backbone 4.

10 With a single tine version of the invention as illustrated in Figure 1 to 3, the body of the storage device 1 is designed to complement the type and length of the lead 2 required to be stored thereon. Accordingly, the length of the backbone 4 and the length of the tine 5 is determined to accommodate a preferred number of loops of the lead 2 stacked sequentially on top of each other as the lead is looped on to the storage device 1. In the illustrated embodiments the storage device is represented with a backbone 4 and tine 5 of
15 fixed length.

However, in some embodiments which are not illustrated, increased capacity of storage may be effected with a body 3 in which for example the backbone 4 is substantially longer than the tine 5, but the length of the tine 5 may be extendable, such as via
20 telescopically or via the use of extensions which may be added to the tine 5 to provide the desired adjustability. Any such adjustment is preferably not time intensive, would not require complex additional pieces of machinery, specialist knowledge, or tools and would offer an effective adjustment means.

25 Whilst the storage device may be configured to take any appropriate shape as required to effect the preferred strength to support the weight of the lead, it is the defined distance 6 of the channel 7 created between the backbone 4 and the tine 5 that is of most importance. Depending on the dimensions of the lead or other article stored on the storage device, the width 6 of the channel 7 may vary from one embodiment to another.
30 However, it is important that the channel be the same defined width 6 for the substantial length of the channel receiving the lead(s).

In some use situations, the stored article may be too heavy or cumbersome to be easily carried on the storage device to a site for use. In such situations the described
35 embodiment is configured to include or be adapted to include motive means 13, such as

5 wheels or castors to facilitate movement of the storage device and stored article thereon. As may be appreciated, any number and arrangement of the motive means may be employed. In addition, there may be included braking means, or bracing means 14 that enable the storage device to be stood independently of the user.

10 Therefore in such instances a stand or a frame 15 may be included on to which the motive means 13 with or without braking means or bracing means 14 may be included. In some embodiments the backbone of the storage device may be an integral part of the frame 15 , as may the latching means. However, the storage device may be configured such that the device and the frame are two separate components and the backbone of the storage device
15 may be configured hollow to slide over a central vertical tubular portion of the frame to enable the storage device to rotate as previously described.

For greater flexibility of storage and/or use, the frame may include a portion which is extendable telescopically 16. This telescopic extension may be part of the frame to which
20 only the storage device is attached, or may involve a whole section of the frame being able to be extended telescopically. Appropriate catches, locking means and release systems may be employed to maintain the frame in its extended position and vice versa. Such an option may be beneficial where the storage device is being used to store and transport sheet materials and the like. The vertical portion of the frame also minimises the
25 need for the user to have to bend to remove or apply the article to the storage device.

The storage device 1 provides a system which is easy to operate, transport, or store and requires minimum time and physical requirements on the part of the user. It also provides a system whereby stored chords, flexes, hoses or leads 2 or other articles may be stored in
30 a manner that, when required to be used, are removed from the device 1 without a resulting difficulty, or length of time. The handle means of the storage device enables the device to be stabilised or carried throughout the unloading process, to further assist with placement of the article as and where required. Finally, the present invention offers a safe alternative to the storage and use of electrical extension leads, in particular.

5 It should be appreciated that the above description relates to the embodiments illustrated in Figures 1 to 3. However, describing these embodiment only, should not be seen as limiting the scope of this invention, nor does it limit variations to and from the above described embodiments which may be made without deviating from the scope of the present invention.

10 It should also be understood that the term "comprise" where used herein is not to be considered to be used in a limiting sense. Accordingly, 'comprise' does not represent nor define an exclusive set of items, but includes the possibility of other components and items being added to the list.

15 This specification is also based on the understanding of the inventor regarding the prior art. The prior art description should not be regarded as being an authoritative disclosure of the true state of the prior art but rather as referring to considerations in and brought to the mind and attention of the inventor when developing this invention.

20 Aspects of the present invention have been described by way of example only and it should be appreciated that modifications and additions may be made thereto without departing from the scope thereof.

25
VAUGHAN JOHN HUTCHINSON

By his attorneys


PIPERS CENTRAL

Intellectual Property
Office of PIP

18 SEP 2003

RECEIVED

Figure 1

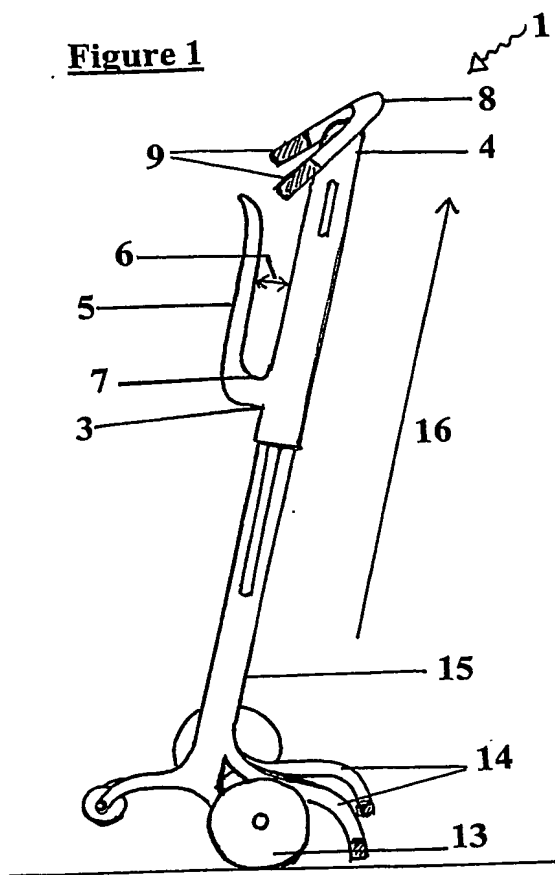


Figure 2

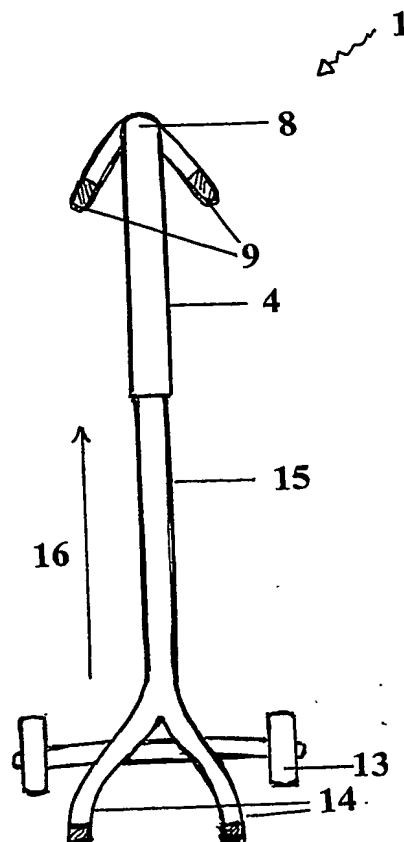


Figure 3

